

## ABSTRACT OF THE DISCLOSURE

A measurement system and an associated method for determining the positions of multiple antennas to centimeter level accuracy. The system involves minimal incremental hardware cost per additional antenna to be tracked. The primary  
5 frequency RF signals are processed by a primary frequency RF section dedicated to each antenna. The secondary frequency RF signals from all the antennas are multiplexed and input to a secondary frequency RF section corresponding to each secondary RF frequency. A correlator derives code and carrier phase for the processed primary and secondary frequency RF signals. A processor thereafter  
10 reconstructs the carrier phase for the secondary frequency RF signals. The processor finally uses these reconstructed phases to resolve carrier cycle ambiguities and to determine the position of the antennas.